

Applicant : Bruce Radi
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REMARKS

The title has been amended substantially as suggested. Allowable claim 7 has been rewritten in independent form without amendment. Claims 1-6, 8 and 9 are presented for reconsideration without amendment in light of the following authorities and remarks.

1. Claims 1-6, 8 and 9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Langworthy. The reference is said to disclose an electro-optical apparatus in FIG. 13 comprising a lens 10, a CCD image sensor 20 having a pattern of color sensitive pixels, and a spectrally dispersive element comprising dichroic mirrors 72, 74, 76 and 78 between lens 10 and CCD 20, with specific reference to column 6, lines 6-34.
2. Regarding claim 2, the reference is said to disclose a Bayer filter pattern as said to be shown in FIG. 14.
3. Referring to claim 3, the reference is said to disclose an alternative embodiment where the color filter pattern is a tri-stripe said to be shown in FIGS. 7 and 8.
4. Referring to claim 4, the reference is said to disclose color-sensitive pixels arranged in continuous groups having a red pixel and a blue pixel as said to be shown in FIG. 14. The spectrally dispersive element 72, 74, 76 and 78 and the lens 10 said to be shown in FIG. 13 are said to be configured to focus a line image of an optical point by optically shifting object light upon a line of a group with the red end of the line within the red pixel and the blue end of the line within the blue pixel, with specific reference to column 6, lines 6-34.
5. Referring to claim 5, the reference is said to disclose a Bayer pattern said to be shown in FIG. 14 having continuous 2x2 pixel groups having a red pixel adjacent to a first and second green pixels adjacent to a blue pixel.
6. Referring to claim 6, the reference is said to disclose a spectrally dispersive element comprising dichroic mirrors arranged so that red and blue images are optically shifted to coincide geometrically at a point on the CCD image sensor, with specific reference to column 6, lines 6-34.

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7. Referring to claim 8, the reference is said to disclose a method of optical processing by focusing on image upon a CCD with a spectrally dispersive element between the lens 10 and array 20 said to be shown in FIG. 13, with specific reference to column 6, lines 6-34.

8. Referring to claim 9; the reference is said to disclose a method of optically shifting red and blue images to coincide geometrically at on the sensor array as said to be shown in FIG. 13, with specific reference to column 6, lines 6-34.

These grounds of rejection are respectfully traversed.

"It is well settled that anticipation under 35 U.S.C. 102 requires the presence in a single reference of all of the elements of a claimed invention." *Ex parte Chopra*, 229 U.S.P.Q. 230, 231 (BPA&I 1985) and cases cited.

"Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim." *Connell v. Sears, Roebuck & Co.*, 220 U.S.P.Q. 193, 198 (Fed. Cir. 1983).

"This court has repeatedly stated that the defense of lack of novelty (i.e., 'anticipation') can only be established by a single prior art reference which discloses each and every element of the claimed invention." *Structural Rubber Prod. Co. v. Park Rubber Co.*, 223 U.S.P.Q. 1264, 1270 (Fed. Cir. 1984), citing five prior Federal Circuit decisions since 1983 including *Connell*.

In a later analogous case the Court of Appeals for the Federal Circuit again applied this rule in reversing a denial of a motion for judgment n.o.v. after a jury finding that claims were anticipated. *Jamesbury Corp. v. Litton Industrial Prod., Inc.*, 225 U.S.P.Q. 253 (Fed. Cir. 1985).

After quoting from *Connell*, "Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim," 225 U.S.P.Q. at 256, the court observed that the patentee accomplished a constant tight contact in a ball valve by a lip on the seal or ring which interferes with the placement of the ball. The lip protruded into the area where the ball will be placed and was thus deflected after the ball was assembled into the valve. Because of this constant pressure, the patented valve was described as providing a particularly good seal when regulating a low pressure stream. The court quoted with approval

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from a 1967 Court of Claims decision adopting the opinion of then Commissioner and later Judge Donald E. Lane:

[T]he term "engaging the ball" recited in claims 7 and 8 means that the lip contacts the ball with sufficient force to provide a fluid tight seal. *** The Saunders flange or lip only sealingly engages the ball 1 on the upstream side when the fluid pressure forces the lip against the ball and never sealingly engages the ball on the downstream side because there is no fluid pressure there to force the lip against the ball. The Saunders sealing ring provides a compression type of seal which depends upon the ball pressing into the material of the ring. *** The seal of Saunders depends primarily on the contact between the ball and the body of the sealing ring, and the flange or lip sealingly contacts the ball on the upstream side when the fluid pressure increases. 225 U.S.P.Q. at 258.

Relying on *Jamesbury*, the ITC said, "Anticipation requires looking at a reference, and comparing the disclosure of the reference with the claims of the patent in suit. A claimed device is anticipated if a single prior art reference discloses all the elements of the claimed invention as arranged in the claim." *In re Certain Floppy Disk Drives and Components Thereof*, 227 U.S.P.Q. 982, 985 (U.S. ITC 1985).

Column 6, lines 6-19 of the reference reads as follows:

FIG. 13 shows a color apparatus having a solid state image sensing device 20 with a checkerboard type color filter array 22 registered thereon. A portion of the color filter array 22 is shown in FIG. 14. As seen from FIG. 14, the colors of the filter elements in the array alternate in two dimensions, vertically and horizontally. The optical device shifts the red color component of the image with respect to the green component in a vertical direction by one image sensing element, and shifts the blue component of the image with respect to the red and green components in a horizontal direction by one image sensing element. The effect is to displace the red and blue image sensing elements as shown by the arrows in FIG. 14.

That is not a disclosure of a spectrally dispersive element called for by the rejected claims. The four mirrors are not a spectrally dispersive element. A spectrally dispersive element means an element that spreads a polychromatic ray of light into a colored fan of rays where the deviation of each wavelength is by a unique angle.

The reference discloses:

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To accomplish the color component spatial shifts in two dimensions, a first dichroic mirror 72 positioned at an angle to the optical path, reflects red and green light and passes blue light. A mirror 74 parallel to and spaced from the dichroic mirror 72 reflects the blue light and shifts the blue component of the image with respect to the red and green components. A second dichroic mirror 76 positioned at an angle to the optical path and rotated 90° from the first set of mirrors, reflects red light and passes blue and green light. A mirror 78 parallel to and spaced from the dichroic mirror 76 reflects the blue and green light passed by dichroic mirror 76 to effect a displacement between the red component of the image and the green and blue components. Col. 6, lines 20-34.

The disclosure of these multiplicity of dichroic mirrors is not the disclosure of a spectrally dispersive element corresponding to spectrally dispersive element 12 disclosed and claimed in this application which is an in-line device allowing wide angle optical paths that preserves the one plane of focus for all colors.

In view of the foregoing authorities, remarks and the inability of the reference to anticipate, suggest or make obvious the subject matter as a whole of the invention disclosed and claimed in this application, all the claims are submitted to be in a condition for allowance, and notice thereof is respectfully requested. Should the Examiner believe the application is not in a condition for allowance, he is respectfully requested to telephone the undersigned attorney at (617) 521-7014 to discuss what additional steps the Examiner believes are necessary to place the application in a condition for allowance.

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The Commissioner is authorized to apply any charges to deposit account 06-1050, Order No. 13076-002001.

Respectfully submitted,

FISH & RICHARDSON P.C.

SEP 18 2003
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